

AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A method of ~~inhibiting, reducing or otherwise~~ delaying onset ~~or progression~~ of bone resorption in an animal in which bone resorption has not yet occurred, said method comprising:

~~identifying an animal with an excess of bone resorption;~~

administering to said animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent, ~~antagonist~~ or agonist thereof for a time and under conditions sufficient to inhibit, reduce or otherwise delay onset or progression of bone resorption.

2. **(Currently Amended)** The method according to Claim 1 wherein the leptin or its derivative, homologue, ~~antagonist~~ or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.

3. **(Currently Amended)** The method according to Claim 1, wherein the leptin or its derivative, homologue, ~~antagonist~~ or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or its complementary from under low stringency conditions at 42°C.

4. **(Canceled)**

5. **(Previously presented)** The method according to Claim 1 wherein said bone resorption is a result of osteoporosis or Paget's disease.

6. **(Canceled)**

7. **(Canceled)**

8. **(Canceled)**

9. **(Canceled)**

10. **(Canceled)**

11. **(Canceled)**

12. **(Canceled)**

13. **(Canceled)**

14. **(Canceled)**

15. **(Canceled)**

16. **(Canceled)**

17. **(Previously presented)** The method of Claim 1 wherein said animal is a human.
18. **(Canceled)**
19. **(Canceled)**
20. **(New)** A method of inhibiting, reducing or otherwise delaying progression of excess bone resorption in an animal, said method comprising:
 - identifying an animal with an excess of bone resorption;
 - administering to said animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof for a time and under conditions sufficient to inhibit, reduce or otherwise delay onset or progression of bone resorption.
21. **(New)** The method according to Claim 20 wherein the leptin or its derivative, homologue or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.
22. **(New)** The method according to Claim 20, wherein the leptin or its derivative, homologue or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or its complementary from under low stringency conditions at 42°C.
23. **(New)** The method according to Claim 20 wherein said excess bone resorption is a result osteoporosis or Paget's disease.
24. **(New)** The method of Claim 20 wherein said animal is a human.
25. **(New)** A method of inhibiting, reducing or otherwise delaying onset or progression of symptoms of Paget's disease, said method comprising administering to an animal with Paget's disease an effective amount of leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof for a time and under conditions sufficient to inhibit, reduce or otherwise delay onset or progression of said symptoms.
26. **(New)** The method according to Claim 25 wherein the leptin or its derivative, homologue or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:2 after optimal alignment.
27. **(New)** The method according to Claim 25, wherein the leptin or its derivative, homologue or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:1 or a

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nucleotide sequence having at least 60% similarity to SEQ ID NO:1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:1 or its complementary from under low stringency conditions at 42°C.

28. (New) The method of Claim 25 wherein said animal is a human.